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Announcement: XIIIRD Congress of ISB Venue

At a recent meeting of the ISB Executive Council it was decided that the hosting of the XIIIRD Congress would be awarded to the Biomechanics group at the University of Western Australia, in Perth, Australia. The organisation of this Congress will be coordinated by Graeme Wood, and the intended date is December 9-13, 1991.

The University of Western Australia is located in Nedlands, Western Australia, on the banks of the Swan River just 5 kilometers from downtown Perth. The University is Australia's 4th largest university and provides educational and research facilities to over 10,000 students in ten Faculties, namely Medicine, Dentistry, Science, Engineering, Education, Law, Economics and Commerce, Agriculture, Architecture and the Arts. The department of Human Movement Studies is the 12th largest on campus and offers courses in Biomechanics, Exercise Physiology, Motor Learning and Control, Adaptive P.E. and Sports Psychology leading to BSc/MSc, BPE/Dip Ed, BEd/MEd and PhD degrees. The department's Graduate programme is the largest of its kind in Australia and attracts students from both the Eastern States and overseas.

It was proposed that the XIIIRD Congress be held during the second week of December, in order to take advantage of the early Summer conditions and student vacation period. Details of Perth's average climate at this time are:

Temperature: 16.2°C minimum
27.4°C maximum

Humidity: 51% 9.00 a.m.
44% 3.00 p.m.

Rainfall: 14 mm on 4 days only.

Several Colleges and Halls of Residence are located on the immediate perimeter of the campus and will provide low-cost bed-and-breakfast style accommodation.

Western Australia is serviced by two National airlines which provide a daily service from the Eastern States (Sydney, Melbourne and Adelaide). Qantas, British Airlines, Air New Zealand, Singapore Airlines, Malasian Airlines, Cathay Pacific, Garuda, and JAL all have direct flights into Perth's International Airport, which, together with United and Continental who fly into Sydney provides links with all major International terminals around the world.

Temporary visitors, not intending to stay in Australia for more than 6 months need only have a 'Visitors' visa, which can be obtained from any overseas Australian Embassy or Consulate.

Send us a touristical postcard with your fax and/or electric mail number for systematic publication in the newsletter.
Calendar of world wide scientific events

Oct. 16-19, 1988
Hilton Head, South Carolina, Occupational Low Back Pain. For pre-registration & information: Maureen E. Hanagan, Director Continuing Medical Education, 233 Rowell Building, University of Vermont, Burlington, VT 05405 (802) 656-2292


Oct. 18-19, 1988
"Biomat 88". Hybrid artificial organs. Concepts and development. University Hospital of Bordeaux II - France (c/o Mrs. Rouais, Biomat 88 - INSERM U 306 - Université de Bordeaux II, 146, rue Léo-Saignat, 33076 Bordeaux Cedex Phone 56 93 12 72. Telex 550 491 F.

Oct. 24-28, 1988

Nov. 14-17, 1988
Basel, Switzerland, Biostereometrics '88, The Fifth International Meeting, Congress Center F. Hoffmann-LaRoche & Co., AG.

Nov. 14-18, 1988
Moscow, 2nd Workshop on Criteria for the evaluation of effects of whole body vibration on man. (Secretariat: Institute of Industrial Hygiene and Occupational Diseases of the USSR, Academy of Medical Sciences, Prospect Budennogo 31, Moscow 105275, USSR).

Nov. 15-16, 1988
Papendal, The Netherlands, Sport for All; Sports Injuries and their Prevention, National Institute for Sports Health Care (NISGZ), National Sports Centre Papendal, The Netherlands, P.O. Box 90, 6860 Oosterbeek, The Netherlands.

Jan. 5-7, 1989
Convention announcement and call for papers. The Annual Meeting of the National Association for Physical Education in Higher Education will be held in San Antonio, Texas. Theme: What should professionals in physical education know? What should professionals in physical education do?

April 26-30, 1989

April 27-29, 1989
Leuven, Belgium, "XIVth Meeting of the European group of Pediatric Work Physiology" (c/o Prof. Dr. G. Beuven, K.U.L., I.L.O., Tervuerse Vest 101, 3030 Heverlee, Belgium) Tel.: 016/22.23.10.

May 14-19, 1989

June 21-24, 1989
Berlin (West), FRG, "7th Intern. Symposium Adapted Physical Activity - an interdisciplinary approach" (c/o 7th ISAPA BERLIN '89, Secretary, Institut für Sportwissenschaft, Freie Universität Berlin, Rheinbabtenallee 14, D-1000 Berlin 33) Tel.: (030)824.37.31.

June 26-30, 1989
Los Angeles, "XII Congress of Biomechanics" (c/o XII Intern. Congress of Biomechanics, UCLA Deptm. of Kinesiology, 2834 Slichter Hall, Los Angeles, CA 90024-1568, USA. Tel.: (213)825-3910 of 825-5376.

June 29-July 3, 1989

July 14, 1989
Helsinki, 31th International Congress of Physiological Sciences. (Secretariat: Pr. O. Hanninen - Travel Experts Ltd - P.O. Box 722 - SF - 00101 Helsinki - Finland)

July 16-19, 1989

July 18-21, 1989
Birmingham, United Kingdom, 'International Sports Science Conference'. Theme 'Science in the service of sport' (c/o The Sports Council, 16 Upper Woburn Place, London WC1H OQP), Tel.: 01-3881277, Fax: 01-3835740, Telex: 27830 SPORTC G.

Send us a touristical postcard with your fax and/or electric mail number for systematic publication in the newsletter.
July 23-27, 1989
Denpasar, Indonesia, 'IX IAPEGSW World Congress'.
Theme: 'Better Family Life Through Physical Education and
Sport' (c/o XI IAPEGSW Congress, Gedung Koni, Jalan
Gelora Pintu Satu, Jakarta 10270, Indonesia). Tel. (65021)
387492 - 5481890, Telex: 45214 koni ia.

Aug. 07-12, 1989
Singapore, '7th World Congress on Sport Psychology'.
Theme: 'Sport Psychology and Human Performance' (c/o
Dr. C. K. Giam, Singapore Sports Council, National
Stadium, Kallang 1439, Singapore). Tel: (65) 3457111,
Telex: rs 35467 natstad.

Aug. 28-Sep. 01, 1989
Turku, Finland, '2nd Paavo Nurmi Congress and Advanced
European Course on Sports Medicine.' (c/o Dr. Martti
Kivist, M.D., Sports Medical Research Unit, Klinikkylynk
10, SF-20520 Turku, Finland). Tel.: 358-21-513355.

Aug. 29-Sep. 01, 1989
Saarbrücken, FRG, International Symposium on 'Research in
Motor Learning and Movement Behavior' (c/o Prof. Dr.
Reinhard Daugs, Sportwissenschaftliches Institut der Universi
tat des Saarlandes, Im Stadtwald, 6600 Saarbrücken, FRG).
Tel.: (0681) 3024170.

Sep. 05-08, 1989
Barcelona, Spain, 'XVI Congreso Grupo Latino y Mediter
râneo de Medicina del Deporte' (c/o CEARE, Residência
Blume, Av. Paisos Catalans, 12, 08950 Esplugues de
Llobregat, Barcelona, Espana). Tel.: 254 07 78.

Sep. 11-15, 1989
At the London Hospital, London, England. VIIIth World
fina Medical Congress on Aquatic Sports. Further Information:
Conference Service Limited, Aldine House, 9-15 Aldine
Street, London W12 8 A W. Tel.: 01-740 8121 (International
2 44-1-740 8121) Telex: 916024 Confer G.

Oct. 29-Nov. 3, 1989
Colorado Springs, Colorado, U.S.A., World Congress on
Sport Sciences. Promoted by the International Olympic
Committee, Medical Commission. Organized by the United States
Olympic Committee, c/o M.M. Newsom, U.S. Olympic
Committee, 1750 East Boulder Street, Colorado Springs, CO
80909 U.S.A.

Jan. 28-Feb. 02, 1990
Auckland, New Zealand, IXth Commonwealth and Interna
tional Conference (c/o Conference Convenor 1990, Ms.
Rosalie King, Auckland College of Education, Private Bag
Symonds St., Auckland, New Zealand).

May 21-25, 1990
Brussels, Belgium, International Congress on 'Youth, Leisure
and Physical Activity'. Vrije Universiteit Brussel, HILOK,
P. De Knop, secretary general, Pleinlaan 2, B-1050 Brussels,
Belgium.

May 21-25, 1990
Brussels, Belgium, International ISAK-congress 'Kinan
thropometry IV' incorporated in the international congress on
'Youth, Leisure and Physical Activity' (c/o Dr. P. De
Thesis abstract corner

IMPULSE CHARACTERISTICS AND UPPER LIMB LOADINGS OF AIDED GAIT

K.A. Opila
PhD Thesis
University of Strathclyde, 1985
Supervisor: A.C. NICOL

ABSTRACT

This study was undertaken to quantitatively evaluate how walking aids assist in the locomotion of persons with musculoskeletal or neural deficiencies. The ability to perform aided gait and protect deformities and other unaffected joints depends on physiological, metabolic, biomechanical and psychological factors. Clinically, walking aids and gait patterns are prescribed by optimising the requirement of the patient and the functioning of the aid in terms of restraint/propulsion, stability and support.

Three types of disabilities were analysed — paraplegia, post-operative hip arthroplasties and complex tibial fractures — whose primary needs for walking aids correspond to the three functions respectively. The paraplegic and fracture subjects were aided with elbow crutches and the hip replacement subjects used sticks which had been strain-gauged to measure forces in three dimensions. The reaction forces on the limbs were also monitored by a Kistler forceplatform. Synchronous data of upper limb joint centre positions were acquired at 50 Hz using the Strathclyde television system to determine elbow and shoulder joint moment loadings and to evaluate the amount of elbow flexion during aid usage.

The parameter of impulse (area under the force-time curve) was selected to quantify the contribution of the aids and limbs to locomotion and was shown to readily differentiate between the three functions of walking aids. The aid loadings transmitted to the upper limbs consistently caused the glenohumeral joint to extend and abduct with the elbow joint either flexing or extending. Glenohumeral joint extension moments of paraplegic subjects were as much as 0.10 Nm/BW equivalent to moments developed at the hip joint during gait. The muscular effort required, both to balance the upper limb joint moments and to cause velocity fluctuations which ranged from 28% to 176% of average velocity values during the gait cycle, contributes to the high metabolic costs associated with aided gait. From the biomechanical results, the effects of modifications on the standard elbow crutch to improve function relative to the ability of the upper limb to transmit the loadings were examined hypothetically and practically.

THE MECHANICAL TESTING OF MORSE TAPERS

by
Paul Reeves

A Thesis submitted for the degree of Master of Science (Bioengineering) of The University of Strathclyde.
Supervisor: R. WILKINSON

ABSTRACT

Large size femoral implants have been in use for the last forty years. Originally the protheses were custom made for each patient, at first primarily from plastics but soon metallic implants rapidly became the standard. Due to the cost and time involved in manufacturing the custom made implants it was realized that a cheaper and more flexible system was required. One approach to the problem is to use a modular system whereby the patient is measured and fitted with an implant in a single operation, without being constrained by manufacturing times or delays.

This thesis attempts to test a mechanical coupling method based on a standard industrial system, the self-locking taper. The particular emphasis is to establish the minimum length of taper required for reliable locking. Taper length controls the step size of an individual component.

Bend tests were performed as this mode was thought to be the critical case for the unlocking of the coupling system. Tests were also carried out to establish the uniaxial load performance of the joint as well as whether industrial manufacturing standards will produce a reliable joint between previously unconnected components.

The tests established that an implant could be produced with a stepwise increase in length between sizes of around 20 to 25 mm. It was also found that the length of the coupling systems is much more significant when resisting bending loads than uniaxial tension.

The tests on the coupling system require further work to establish confidently whether self-locking tapers produced to industrial standards are reliable enough to act as the coupling system for a modular implant system.

THE EFFECT OF AUDIO FEEDBACK ON THE DENERVATED KEY-GRIPT

Master of Science, (Bioengineering), of the University of Strathclyde

Robert Farley
September 1985
Glasgow

ABSTRACT

An audio-feedback system, based upon a conductive foam, was built in order to replace the absent sensory facility in the denervated hand.

A tracking test system was designed and built, comprising a microcomputer and pinch-force transducer. This was used to assess the performance of the hand when in the keygrip mode.

Eight normal volunteers and two patients tracked constant force and sinusoidally varying force targets. Patients repeated the exercise using audio-feedback.

Comparison of patient performance with that of the normal enabled a qualitative assessment to be made of the effect of audio-feedback.

It was found that the tracking response of patients tended to that expected from the normal when using feedback.
BIOMECHANICAL MODEL OF
THE HUMAN BODY FOR THE ANALYSIS
AND ASSESSMENT OF SPINAL STRESS
DURING LOAD MANIPULATION

by

Matthias Jäger

Thesis: Biomechanisches Modell des Menschen zur Analyse
und Beurteilung der Belastung der Wirbelsäule bei der Hand- 

Supervisor: Prof. Dr. W. Laurig

Institute of Occupational Health
at the University of Dortmund

Department of Work Physiology III (Ergonomics)

ABSTRACT

Epidemiological studies have shown that, within the skeletal
and locomotor systems, the spine is particularly frequently
affected by complaints and damage. Persons who manipulate
loads occupationally often complain about low-back pain and
irreversible damage in the lumbar-spine region. The measure-
ment of characteristic mechanical values for strain (e.g., tor-
que, force, pressure) has hitherto only been carried out in the
medico-clinical field (e.g., Nachemson 1959, Andersson et al.
1977). Biomechanical simulation calculations are, however,
suitable for the routine analysis of load manipulation. Earlier
biomechanical human models are two-dimensional in the
sagittal plane (e.g., Morris et al. 1961, Chaffin 1969), since
the analyses were predominantly concerned with heavy-load
lifting, commonly a bi-manual operation.

The three-dimensional human model presented in this
paper additionally permits the calculation of the mechanical
load on the lumbar spine during non-symmetrical load
manipulation. The model comprises 19 body segments which
and 'humpback' postures, are examined. The calculated tor-
que and force values are compared either with strength values
for the spine or with the load classification provided by
Tichauer (1978) and NIOSH (1981) in order to assess load-
manipulation activities and to estimate the health risk. The
mechanical compressive strength of the lumbar spine is com-
piled by summarizing the results from about 25 series of
previous measurements. The resultant mean value from a
total of 283 compression tests is 5.1 kN for a standard de-
viation of 2.3 kN. The mechanical strength of the lumbar
spine is of the same order of magnitude as the lumbar stress
when loads of typical weight are manipulated (0-50 kg).

References:

Intradiskal pressure, intra-abdominal pressure and myo-
electric back muscle activity related to posture and loading.

A computerized biomechanical model-development of and
use in studying gross body actions.
J. Biomechanics 2, 429-441.

Role of the trunk in stability of the spine.

Nachemson, A. (1959)
Measurement of intradiskal pressure.

NIOSH, National Institute for Occupational Safety and
Health (1981)
Work practices guide for manual lifting. Department of
Health and Human Services, Cincinnati, Ohio. DHHS
(NIOSH) publ. No. 81-122.

Tichauer, E.R. (1978)
The biomechanical basis of ergonomics. Wiley, New Yor

THE EFFECT OF PUSHING FREQUENCY
ON THE KINEMATICS OF WHEELCHAIR
SPRINTING

by

Catherine Mary Walsh

A thesis submitted to the faculty of graduate studies and
research in partial fulfillment of the requirements for the
degree of Master of Science

Physical education and sport studies

Edmonton, Alberta

Fall 1986

ABSTRACT

This study examined the influence of different pushing fre-
quencies on the time required to cover the final 40 metres of
the 60-metre indoor wheelchair sprint. The study also examin-
ed the effect of different pushing frequencies on selected
kinematic parameters.

Three male and three female national and international-
level wheelchair sprinters participated in the study. A
multiple-time-series design using two experimental groups
and a cross-over of experimental treatments was used.
During the baseline period, subjects performed five repetitions of the 60-metre sprint for five consecutive days. Each subject was required to wheel in them with an auditory metronome set to his or her previously calculated, preferred pushing frequency. During the first treatment period, group 1 wheeled at a faster than baseline frequency while group 2 performed at a frequency that was slower than that of the baseline period. During the second treatment period, the treatments administered in the first treatment period were reversed.

Temporal data, which consisted of the time required to cover the final 40 metres, and every 10-metre segment within that distance, of a 60-metre sprint, showed a gradual decrease in the time required to cover each successive 10-metre segment. These results illustrated that wheelchair sprinters and stand-up sprinters demonstrated a similar pattern of peak velocity attainment. Despite the fact that the overall results of the temporal analysis suggested that frequency had no effect on the timed performances of the subjects who participated in this study, an analysis of individual performances provided support for the hypothesis that increased pushing frequency would result in increased sprinting velocities.

Cinematographical data were collected on the final day of the baseline and each of the two treatment periods using a panning technique. Each subject was filmed over a 10-metre distance in an effort to determine the effect of different pushing frequencies on the point of hand contact, the point of hand release, the magnitude of the contact arc, the pushing length and the path of the hand during the propulsion cycle. Results of the cinematographical analysis showed much variability in the manner in which the subjects responded to the different pushing frequencies. The results did however demonstrate that the treatments had an effect on both the pushing length and the path of the hand during the recovery phase of the propulsion cycle. More specifically, at the slower pushing frequency, all subjects demonstrated longer pushing lengths and hand paths that moved away from the handrim resulting in much unproductive movement. At the faster pushing frequency, shorter pushing lengths were observed. During this treatment period, the hand remained in close proximity to the handrim.

Results of this study have provided some valuable practical recommendations for coaches of wheelchair sprinters. The study has also raised a number of questions for further research.

The Concerted Action

EVALUATION OF ASSISTIVE DEVICES FOR PARALYSED PERSONS

Of the total number of handicapped persons in the European Community, those who are paralysed form a considerable percentage. The most recent advances in technology have dramatically widened the range of possibilities offered to disabled persons for improving rehabilitation, independent living, social integration, school integration and job opportunities.

The Concerted Action 'Evaluation of assistive devices for paralysed persons' was run by the Commission of the European Communities through its Directorate General XII with the aim of coordinating the ongoing research in the field, promoting exchange of experiences and knowledge among experts, evaluating either the technical characteristics of the available assistive devices or their suitability and effectiveness in meeting the actual needs of disabled persons in daily life.

About 80 research Centres, rehabilitation Centres and Industries throughout Europe are actively cooperating in the project.

Activities have concentrated on three main topics:
- Mobility aids
- Assistive devices for Walking Restoration
- Technical aids for communication, manipulation and environmental control.

The project has been led by a Project Management Group composed of the following experts
- Prof. Antonio Pedotti (Milano, Italy), project leader
- Ing. Renzo Andrich (Milano, Italy)
- Ir. Theo Bougie (Hoesbroek, The Netherlands)
- Dr. George Cochrane (Oxford, United Kingdom)
- Prof. Claude Hamonet (Paris, France)
- Ing. Hans Jochen Küppers (Heidelberg, West Germany)
- Prof. Pierre Rabishong (Montpellier, France)
- Prof. Gordon Kenneth Rose (Oswestry, United Kingdom)
- Prof. Albert Tricot (Bruxelles, Belgium)
- Dr. Michael Whittle (COMAC-BME observer)
- Dr. Roger Thull (COMAC-BME observer)
- Dr. Viviane Thévenin, Dr. Walburga Skupinsky (DGXII)
- Dr. Danielle Rimbert (HANDYNET project)
- Dr. Bernhard Weherens, Dr. Patrick Daunt, (Bureau for Action in Favour of Disabled Persons)

Further information can be obtained by the Concerted Action Secretariat:
Evaluation Project
Centro di Bioginegneria
cia Gozzadini 7, 20148 Milano, Italy
tel. +39-2/4043951

A SET OF BOOKS COLLECTING THE MOST RECENT ADVANCEMENTS IN REHABILITATION TECHNOLOGY FOR THE PERSONS WITH PHYSICAL DISABILITIES IN THE EUROPEAN COMMUNITY.
WHEELCHAIRS: RESEARCH, EVALUATION AND INFORMATION
(eds. T. Bougie, A. Davies)
pp. 189
language: English
ISBN 88-85936-00-8
Proceedings of the Topical Workshops held in Berlin, West Germany, on October 10-11, 1985 at the Technical University and the Tropical Workshop held in Hoensbroek, The Netherlands on October 8-9, 1986 at the Lucas Stichting voor Revalidatie.

The wheelchair is one of the most important and widespread technical aids for independent living. In the most recent years technological advancement brought about impressive improvements in the technical quality of wheelchairs and in their ability to meet the mobility needs of the disabled users. Frame design and materials, seating system, control apparatus, modularity, ergonomics are subject to continuous developments which involve the need of effective technical, functional and practical evaluation. This book is an important contribution towards spreading knowledge and experiences on this topic at international level, and also towards the establishment of common and shared criteria for wheelchairs evaluation.

Contributors:
X. Maillard, M. Jouin, G. Boruchowitsch, P. Dolfuss (France)
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B. Lundberg (Sweden)
R. Andrich, C. Huriet, A. Pedotti (Italy)
J. Kauzlarich (USA)

METHODOLOGY OF CONSUMER EVALUATION OF HAND PROPELLED WHEELCHAIRS
(M. Roebroek, L. Van Der Voude, R. Rozendal)
available in December 1988
language: English
ISBN 88-85936-02-4
A wheelchair functional evaluation handbook addressed at rehabilitation professionals and people concerned with research and technical development.

The results of Dutch survey of hand propelled wheelchairs carried out on a sample of 609 wheelchair users over a long time span offered the background for working out a methodology of consumer evaluation of hand propelled wheelchairs which can be useable and meaningful also in other Countries. This methodology involve telephone interviews, wheelchair diaries, failure diaries and simple instruments to be temporally installed onto the wheelchair itself. Interrelations between the various instruments are analysed with respect to the user’s functional abilities, to the type of wheelchair and to the intensity of use.

THE ADAPTATION OF CARS FOR PARALYSED PERSONS
(eds. H. Küppers)
pp. 104
language: English
ISBN 88-85936-01-6
Proceedings of the Topical Workshop held in Heidelberg, West Germany, on October 23-24, 1985 at the Stiftung Rehabilitation.

Achieving independency in driving a car is an important aspect of rehabilitation and a step towards social integration of people with disability. Access to education, vocational training, job opportunities and social relationships are some of the aspects in which the ability to drive plays a role of paramount importance. Through the contribution of experts in the field from all over Europe this book illustrates the state of the art in technology and the ongoing research activities aimed at increasing safety and reliability of driving for disabled people, especially for those with severe impairments in upper and lower limbs. Attention is also devoted to the existing national regulations and to their possible improvements.

Contributors:
H. Küppers, R. Lempp, A. Zawatsky, B. Leis (West Germany)
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P. Dolfuss, P. Zimmermann, H. Kempf (France)
R. Andrich (Italy)

EVALUATION OF ASSISTIVE DEVICES FOR PARALYSED PERSONS
(eds. A. Pedotti, R. Andrich)
pp. 206
language: English and French, abstracts in Italian
Proceedings of the European workshop held in Milano, Italy on April 27-29, 1984, at the Fondazione Pro Juventute Don Carlo Gnocchi.

The book is a unique and complete review of the state of the art and of the current trends concerning evaluation of technical aids and research into new technologies for the motor disabled, in the European Community and in the Scandinavian Countries.

Contributors:
A. Pedotti, R. Andrich, M. Bracale, P. Emiliani (Italy)
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A. Tricot, D. Henne, P. Luypaert (Belgium)
G. Cochrane, G. Rose, U. Boenik, G. Vossius (West Germany)
T. Bougie, W. Leliveld (The Netherlands)
L. Hein, H. Larsen (Denmark)
F. Keane (Ireland)
D. Vasiliopoulou (Greece)
B. Lundberg (Sweden)
RESTORATION OF WALKING AIDSLED BY FUNCTIONAL ELECTRICAL STIMULATION

(ed. J. Van Alste)
pp. 138
language: English
ISBN 88-85936-03-2

Proceedings of the topical workshop held in Enschede, The Netherlands on April 8-9, 1987 at the University of Twente, Het Roessingh Rehabilitation Centre.

One of the most promising techniques for the restoration of walking in paraplegic persons is Functional Electrical Stimulation, which is rapidly progressing owing to the advancements in electrodes technology, in VLSI circuitry as well in the knowledge of motor disorders and of the strategy of muscle control. The book offers a unique and complete review in the field, very useful to researchers and clinicians concerned with rehabilitation.

Contributors:
P. Rabishong, J. Wooldoslo (France)
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EUROPEAN COORDINATION OF INFORMATION CONCERNING DISABLED PERSONS

(eds. A. Pedotti, R. Andrich)
pp. 209
language: English and French, abstracts in English, French and Italian
ISBN 88-85936-06-7

Proceedings of the HANDYNET workshop held in Milano, Italy, on September 25-27, 1984, at the Fondazione Pro Juventute Don Carlo Gnocchi.

The HANDYNET projects is run by the Commission of the European Communities with the aim of creating a European computerised information network concerning technical and social resources for rehabilitation and integration into society. The Concerted Action has always kept close cooperation with HANDYNET. This book offers an interesting survey of the ongoing initiatives dealing with information dissemination on technologies for the disabled in the EEC and in the Scandinavian Countries.

Contributors:
A. Storm, A. Maron, D. Rimbert (Belgium)
E. Endergerg (Denmark)
J. Roux, J. Pierre, M. Duhamel (France)
L. Van Amelsvoort, T. Bougie (The Netherlands)
A. Pedotti, R. Andrich, P. Emiliani (Italy)
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TECHNICAL AIDS FOR COMMUNICATION, MANIPULATION AND ENVIRONMENTAL CONTROL

(eds. G. Cochrane, C. Hamonet)
pp. 94
language: English
ISBN 88-85936-04-0

Proceedings of the Topical Workshop held in Paris, France on May 8-10, 1985, at the Association des Paralyses de France.

This book is divided into three main chapters relevant to the topics of communication, assisted and robotic manipulation, environmental control. It offers a survey of the ongoing research and evaluation activities in the field at European level.

Contributors:
H. Kippers, G. Vossius, G. Lormes (West Germany)
R. Damper, B. Davies, C. Thursfield (United Kingdom)
W. Leliveld, M. Soede (The Netherlands)
J. Moreau, S. Pannier, H. Kwee, P. Lacert (France)
M. Bracale, P. Emiliani, G. Costa (Italy)

RESTORATION OF WALKING FOR PARALYSED PERSONS

(ed. G.K. Rose)
pp. 90
language: English
ISBN 88-85936-05-9

Proceedings of the Topical Workshop held in Oswestry, United Kingdom, on March 26-27, 1985, at the ORLAU, Robert Johnes & Agnes Hunt Orthopaedic Hospital.

Restoration of walking is one of the most attractive topics of research into rehabilitation technology and recent advances in technical and medical knowledge are bringing about interesting results. Through the contribution of experts from the research and rehabilitation centres most active in this field, the book illustrates and discusses the state of the art and the results which can be achieved through three approaches: mechanical orthoses, electrical stimulation and hybrid techniques.

Contributors:
P. Rabishong (France)
G. Zilvold, J. Van Alste, P. Velteink (The Netherlands)
A. Krajaj, T. Bajid (Yugoslavia)
R. Serra (Belgium)
M. Winkelmuller (West Germany)
A. Pedotti, C. Frigo (Italy)
Special article

BIOMCH-L
AN ELECTRONIC MAIL DISCUSSION FOR BIOMECHANICS

Herman J. Woltring*
Eindhoven, The Netherlands

An electronic mailing list had been created for members of the ISB and of related organizations (e.g. ESB, ASB, CSB) which, at least for users of EARN/BITNET/NETNORTH systems, allows free exchange of information with fellow-members on the list. In view of the overlap between Biomechanics and other fields such as Kinesiology, Bio-engineering, Motor Control, and Physiology, the list is currently also open to non-members; however, this might require reconsideration in view of budgetting revision on EARN/BITNET/NETNORTH by mid-1989.

Users on EARN/BITNET/NETNORTH may subscribe to the list by electronic mail or by sending one of the following interactive commands (or the equivalent command for their system):

VAX with VMS: SEND LISTSERV HEARN SUB BIOMCH-L name
VM/SP: TELL LISTSERV AT HEARN SUB BIOMCH-L name
MVS with TSO/E: TRANSMIT HEARN. LISTSERV NOPROLOG
and enter SUB BIOMCH-L name PF3 on the screen

where name should be the user's full name (initials and last name).

Messages can be submitted for distribution over the list by sending the message in mail format to BIOMCH-L LEARN (but NOT to LISTSERV HEARN!). At present, the list is open for subscription and distribution without editorial interference; depending on the quality of list usage, editorial interference may remain unnecessary. Note that EARN/BITNET/NETNORTH imposes certain standards as regards non-academic use; see the relevant information which can be obtained from NETSERV HEARN or from any other NETSERV fileserver on EARN/BITNET/NETNORTH. In order to protect the subscribers' privacy, their names and electronic addresses cannot be REVIEWed (even though subscription is open to anyone); depending on subscribers' wishes, this policy might be reconsidered.

For details on the use of LISTSERV facilities, users should request general LISTSERV information by sending the request

VAX under VMS: SEND LISTSERV HEARN INFO keyword

or the equivalent command for other systems, where keyword can be one of the following (capitals are mandatory, lower case letter are optional):

? Short summary of all INFO files
GENintro General introduction to LISTSERV
PResentation Summary of technical information on LISTSERV
REFCard Reference card with short descriptions of LISTSERV commands

At present, the list exists merely at the central EARN-node in The Netherlands (HEARN at the University of Nijmegen). Depending on list usage, so-called 'peer servers' may be created in other countries so as to reduce long-distance electronic mail expenses. In addition, this would allow use of the option for 'local' distribution from one server (e.g., nationwide) or for 'global' distribution from all servers simultaneously.

To some extent, non-EARN/BITNET/NETNORTH users may communicate electronic mail messages (but not interactively as in the above examples). If this fails, I shall be happy to enter their electronic addresses in the BIOMCH-L distribution list. Note that use of the facility on other networks (UUCP, ARPA/Internet, Eunet) may entail expenses which are charged to the user.

I look forward to see you in Netland!

* EARN/BITNET/NETNORTH: wwtmhjw heitue5, wwtmhjw heitue51
ARPA/Internet: na.woltring na-net.stanford.edu

Conference news

SYMPOSIUM
on
BIOLOCOMOTION:
A CENTURY OF RESEARCH USING MOVING PICTURES

Formia (Italy) 14-17 April 1989
organized by
Associazione Italiana di Cinematografia Scientifica
Instituto di Fisiologia Umana
Università degli Studi di Roma 'La Sapienza' under the patronage of
International Society of Biomechanics
European Society of Biomechanics
International Scientific Film Association

We invite the students of biolocomotion to take a break from their everyday research activity, and review the work of our predecessors with the aim of acknowledging the continuity of the scientific thought, clarifying established concepts, and drawing inspiration for future work.

The Symposium will be opened by S. Cerquiglini, University of Rome 'La Sapienza'. M. Marchetti, University of Rome 'La Sapienza', a student of Borelli's work, will tell us what had been achieved in biolocomotion studies, before invention of photography. V. Tosi, A.I.C.S. member, will bring original material from the historical film archives about Marey and Muybridge. The contribution to the analysis of human walking given by C.W. Braune and O. Fisher will be discussed by P. Maquet from Bruxelles. J.P. Clarys, Vrije Universiteit Brussel, will deal with the origin of electromyographic investigations. The scientific impact of Marey's work will be reviewed by S. Bouisset, University Paris Sud. H. Jansons, from Riga, U.S.S.R., will present the most interesting material belonging to the Russian scientist Bernstein. Everybody is aware of the gigantic work done by the California team at Berkeley. This will be illustrated by J.P.
Paul, University of Strathclyde. The development of optoelectronics, its present and future use in biolocomotion will be presented by A. Cappozzo, University of Rome 'La Sapienza', and N. Berme, The Ohio State University. The contribution given by moving picture techniques to orthopedics will be discussed by R. Brand, The University of Iowa. R. McN. Alexander, University of Leeds, will address the state of the art knowledge in animal locomotion. D. Carpitella, University of Rome 'La Sapienza', will talk about the cultural kinesic aspects of biolocomotion.

Contributed papers are solicited in all fields relevant to the use of moving pictures in the study of biolocomotion. Both oral and poster presentations are planned.

The deadline for the receipt of the abstracts is January 31, 1989.

Ten guest studentships are available for selected participants, aged under 30. Send application, accompanied with professional resume and list of publications to the Symposium secretariat before January 31, 1989.

INQUIRES
Secretariat: Lia Galliano, AICS - Via A. Borelli 50, 00161 Roma, phone: INT - 6 - 490820
Aurelio Cappozzo, Istituto di Fisiologia Umana, Università degli Studi 'La Sapienza' - 00185 Roma, phone: INT - 6 - 490673
Necip Berme, Department of Mechanical Engineering, The Ohio State University, 206 West 18th Avenue, Columbus, Ohio 43210, USA, phone: INT - 614 - 4220859

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**Book review**

**SCIENCE AND FOOTBALL**

Thomas Reilly, Adrian Lees, K. Davids and W. Murphy are all in the Department of Sports and Recreation studies at Liverpool Polytechnic where Dr Reilly is Reader in Sports Science.

This contains, edited and revised, all the papers presented at the first World Congress of Science and Football.

Held under the auspices of the International Council of Sports Science and Physical Education, the Congress was a unique gathering of international scientists researching into football and practitioners professionally involved in the many football codes. American football, soccer, rugby league, rugby union, Australian rules, Gaelic football and national variations of these games are all covered in depth, in both amateur and professional systems.

Nutrition, biomechanics, sociology, coaching, equipment, training, tactics & strategy are among the main subject areas the contributors cover. With over 40 countries represented and with players, managers and coaches involved as well as academics the book represents a truly international, comprehensive and practical picture of football today.

April 1988, hardback, 240 x 159, 672 pages, 0 419 14360 2, £ 26.50.

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**IMPORTANT NOTICE**

**CALL FOR NOMINEES**

Under the election procedures adopted in 1981, elections of Executive Council members and President Elect take place every two years and are coordinated by the Past President of the International Society of Biomechanics. All active members are encouraged to submit names of possible nominees for the Executive Council and for President Elect to the Past President prior to February 1, 1989.

The general guidelines for such nominations should be:

1. International (It would be wise to have a Council that represents many different countries and does not have too many members from the same country).
2. Field of Interest (It would be wise to have a Council that is representative of the diverse fields of interest of the Society. Such fields include, in alphabetical order, Locomotion, Motor Control, Occupational, Orthopaedic, Sport and Tissue Biomechanics).
3. Scientific Quality (It would be wise to have a Council made up of members who are recognized for the quality of their scientific work).
4. Organizing Ability (Because most of the work of the Council is organizational in nature, organizing ability is of great importance).

Potential nominees should be contacted prior to submission of the name to ensure that the member being nominated is willing to serve if elected.

A slate of official nominees will be developed from the list of names submitted, including those individuals who are currently members of the Executive Council and are eligible for re-election. (Each Council member’s term is for two years with the possibility of being re-elected twice.) The official mail ballot will be sent to all active members during the Spring of 1989.

Voting will be conducted to select a President Elect and ten members of the Executive Council.

Please send names of potential nominees to:
James G. Hay, Ph. D., Past President ISB, Department of Exercise Science, The University of Iowa, Iowa City, IA 52242, U.S.A.
ISB membership news

ISB MEMBERS WITH UNKNOWN ADDRESSES

Any ISB member who knows the current address of any of these members should forward that address to the ISB Treasurer.

ANGLIM, JOHN n°809
5/340 Beaconsfield Road
Middle Park, Victoria 3206
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Fachartz F. Kiefer-U., Ges. Chirurgie
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D8399 Koesslarn
BRD

ANGLIM, JOHN n°530
90-98 Ma Tau Chung Rd.
Tokwawan, Kowloon
Hong Kong
CHINA

CAROL A. OATIS n°855
3401 Market Street 306
Philadelphia, PA 19104
USA

CHANGE OF ADDRESS

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Cleveland Clinic Foundation
Dept. of Musculoskeletal Research
9500 Euclid Avenue
Cleveland, Ohio 44106
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SQUIRES, RICHARD n°950
L.I.F.E.
645 Ocean Road
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44 Alta Vista Drive
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PHILIPPINES

HALE, STEVEN A. n°905
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BEAUJAFIL, LUC n°784
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C.P. 6079
Ecole Polytechnique Montreal
Succia, Montreal, Canada

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REINSTATED

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Universita Di Rome
00100 Roma
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STOBOY, HANS n°311
Oskar-Helene Heim
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BRD

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M3J 1Y6

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USA

DELLEMAN, NICO J. 1013
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P.O. Box 124
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THE NETHERLANDS

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University of Oregon
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BRD

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AUSTRALIA

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MASLEN, BARBARA 1022
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